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SAPC 15827
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16 May 1957

MEMORANDUM FOR: Project Director
Deputy Project Director

SUBJECT: Dual Oxygen Regulators

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1. As you have noted in [REDACTED] basic communication, the dual regulator is safe, but doubtful as to its being an added safety feature.

2. Against the dual regulator's being an added safety feature is the fact that you have added additional valves, additional hoses and six extra fittings. In effect, we would be trading a simple, operationally safe piece of equipment for one that has at least 12 extra areas in which failure can occur. Not only would be added extra parts, but there is the feature of the selector valve. In test, this part has already created evidence that it must be carefully adjusted. This adds to the dual regulator an extra possibility of difficulty because of the human factor of error in making adjustments on the valve. The single regulator is automatic and does not require this human factor.

3. In favor of the single regulator: our experience over two full years of use, during which many of the regulators have been used many hundreds of hours, we have never experienced one single failure under any emergency or other condition. Since it is an automatic device and does not require any extra movement on the part of the pilot, it reduces the number of things a pilot would have to think about and would have to watch for. In the dual regulator, the pilot would have to manually operate the selector valves and would have to watch devices to interpret which of three systems is working. With the single valve, however, he needs only to watch the oxygen PSI indicator, which can be read at a single glance.

4. Since simplicity of design and simplicity of equipment is one of the things we should always strive for, it is my opinion that we should retain the single regulator as the accepted one for our project. It requires no sophisticated movement on the part of the pilot; it requires little or no care from technicians; it demonstrably works.

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5. I am in complete agreement with [REDACTED] that if LAC has a morale problem that Mr. Johnson has created with his unequivocal statements that the dual regulator is the only thing for his boys, then they should have it. However, I believe it is incumbent to let Mr. Johnson be made fully aware of the extra parts and valves he is adding that can give extra trouble.

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[REDACTED]

GRS:bm

- 1 - Proj Dir
- 2 - Dep Proj Dir
- 3 - Med
- 4 - Ops chron
- 5 - Admin chron

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